

BETHLEHEM STEEL COMPANY SHIPYARD
(W. & A. Fletcher Company)
1201-1321 Hudson Street
Hoboken
Hudson County
New Jersey

HAER
~~HAER~~ No. NJ-95

HAER
NJ
9-HOBO,
8-

PHOTOGRAPHS

WRITTEN HISTORICAL AND DESCRIPTIVE DATA

HISTORIC AMERICAN ENGINEERING RECORD

National Park Service
Northeast Region
Philadelphia Support Office
U.S. Custom House
200 Chestnut Street
Philadelphia, P.A. 19106

HISTORIC AMERICAN ENGINEERING RECORD

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Location: 1201-1321 Hudson Street
Hoboken
Hudson County
New Jersey

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UTM: 18.582400.4511450
Quad: Weehawken, N.J.-N.Y., 1:24,000

Dates of Construction: Between 1890 and 1944

Present Owner: Shipyard Associates, L.P.
5 Marine View Plaza, Suite 500
Hoboken, New Jersey 07030

Present Use: Vacant

Significance: The Bethlehem Steel Company Shipyard played a major role in the shipbuilding industry within the harbor of New York from the time of its development in 1890 until the time of its closing in 1984. This shipyard was occupied by the W. & A. Fletcher Company, a national leader in the construction of steamboats and steam engines, between 1890 and 1929. The yard was operated by the Shipbuilding Division of the influential Bethlehem Steel Company as a ship repair facility from 1938 until 1983.

Project Information: The owner has proposed the demolition of most of the surviving structures within the former shipyard as part of a planned redevelopment of the property. The reuse of one of these structures (the former machine shop) and the documentation of this structure and four others to be demolished was agreed upon as an appropriate mitigation measure for this planned action.

Richard L. Porter, Meredith Arms Bzdak, and Rob Tucher
Rutgers University Center for Public Archaeology
Department of Anthropology
Douglass Campus
P.O. Box 270
New Brunswick, New Jersey 08903-0270

History of the Bethlehem Steel Company Shipyard

The W. & A. Fletcher Company Shipyard -- 1890 - 1929

The Bethlehem Steel Company Shipyard, located within the harbor of New York on the west side of the Hudson River in the City of Hoboken, Hudson County, New Jersey, was initially developed by the W. & A. Fletcher Company in 1890.¹ William Fletcher (1823 - 1883) and his brother Andrew Fletcher (1828 - 1905) were natives of Scotland who were brought to New York City as children in 1829. As young men both were employed as machinists by the H.R. Dunham & Company's Archimedes Works, which was also known as the North River Iron Foundry, on the Hudson River at the foot of North Moore Street. The Fletcher brothers rose to positions of authority within this concern by mid-century.

In 1853 William and Andrew Fletcher joined with Joseph G. Harrison, another young machinist, to enter the shipbuilding industry as Fletcher, Harrison & Company. Financial assistance was provided by William Harrison, the father of Joseph G. Harrison and a successful businessman. The formation of this new venture was at least partially the result of the liquidation of the firm of H.R. Dunham & Company earlier in 1853. Fletcher, Harrison & Company acquired the former Phoenix Iron Works on West Street (and the Hudson) between Laight and Vestry Streets and change the name to the North River Iron Works, apparently in honor of the former Dunham facility. William Fletcher served as the general manager of the new shipyard, with Andrew Fletcher serving as designing engineer and Harrison attending to business matters.

The new company initially concentrated solely on ship repair work. In 1854, however, the yard completed its first marine steam engine, and in the following year the manufacture of boilers commenced. During the next several decades Fletcher, Harrison & Company established a strong reputation as a designer and manufacturer of engines and boilers for smaller coastal and river vessels, while initially continuing to handle general repair work. The company was particularly respected for its production of reliable vertical walking-beam engines that were prized for their fuel economy and low maintenance requirements. As time went on

¹ The W. & A. Fletcher Collection at the South Street Seaport Museum, which encompasses a wide range of data including material from the Hagley Museum and Library in Wilmington, Delaware, served as the principal source of information on the W. & A. Fletcher Company -- see also The Evening News and Hoboken 1893; Van Winkle 1923; Kouwenhoven 1953; Brouwer 1988; and Foster 1990.

the yard was able to move into the construction of this engine type for use in larger vessels. As a result, ship repair activities were eventually abandoned and full attention was given to the fabrication of new power plants. During the second half of the 19th century the company was the leading builder of marine steam engines in the harbor of New York.

In 1880 the retirement of Joseph G. Harrison gave the Fletcher brothers full control of the company, and it was immediately reorganized as the firm of W. & A. Fletcher. A second reorganization followed shortly thereafter, however, in the wake of the death of William Fletcher in 1883.² In that year the W. & A. Fletcher Company, a private corporation, was formed, with Andrew Fletcher as President. The company's reputation led to an increase in business, and it quickly became apparent that a larger shipyard would be required to meet the demand for Fletcher engines and boilers. In the fall of 1889 the company announced its plans to build a new shipyard on the opposite side of the Hudson in the City of Hoboken, New Jersey.³

The W. & A. Fletcher Company leased an undeveloped parcel of land within the Elysian Fields, then a riverfront park, along with the rights to the submerged lands within the river that fronted this parcel, from the Hoboken Land and Improvement Company.⁴ The development of this site began with the extension of Hudson Street north from its former terminus at 10th Street to its present terminus at 14th Street. This was followed by a program of landfilling that extended the shoreline, sited only 100 feet to the east of Hudson Street, as much as 400 feet further into the river. The actual construction of the new shipyard followed, and in February of 1890 it was reported that new buildings designed to serve as the machine shop and the boiler shop were being roofed and that a large pier was being extended out into the river. It was anticipated that the yard would be operational by summer.⁵

The new W. & A. Fletcher Company shipyard, which, like its predecessor, was also referred to as the North River Iron Works, was dominated by the two structures noted above -- the Machine Shop (HAER No. NJ-95-A) and the Blacksmith Shop/Boiler Shop (HAER No. NJ-95-B) (see attached Sanborn-Perris Map Company map of 1891 and W. & A. Fletcher Company

² *New York Times*, March 3, 1883.

³ *Nautical Gazette*, August 8, 1889.

⁴ See Douglass 1841; Clerk & Bacot 1854; Spielmann & Brush 1880; Bailey and Word 1881; Brush 1887.

⁵ *Seaboard, A Maritime Reporter, and the Nautical Gazette*, February 27, 1890.

North River Iron Works view of 1893). The machine shop was sited along the east side of Hudson Street, while the building housing the blacksmith and boiler shops was sited to the east within the filled portion of the property and extended out toward the yard's pier on the Hudson. By 1893 a second smaller pier had been added to the north of the original pier and the yard was employing over 500 men.

The reputation of the W. & A. Fletcher Company expanded during the firm's early years of operation in Hoboken and under the leadership of Andrew Fletcher, who came to be viewed as one of the world's leading marine engineers. During this period the company moved beyond the design and construction of marine engines and boilers to an involvement in actual vessel construction. This required an expansion of the Hoboken yard's production capabilities, and the company began the manufacture of superstructure elements and a wide range of ship's furnishings while continuing to turn out steam power plants. Bare hulls constructed in other shipyards in the region were towed to the Fletcher yard, and the yard's expanded output was utilized in the fabrication of finished vessels. Another noteworthy accomplishment during this period was the design and production of the first double-ended, double screw ferry boat (the *Bremen*) in 1891. These vessels, which featured bow and stern screw propellers and greatly enhanced maneuverability, eventually came to predominate in New York harbor.

Andrew Fletcher continued in the role of President of the W. & A. Fletcher Company until the time of his death in 1905.⁶ During his tenure the company achieved a place among the leading builders of marine steam engines in the United States. Fletcher was succeeded as President (and Treasurer) by his son Andrew Fletcher Jr. (1864 - 1925) with William H. Fletcher (the son of William Fletcher) as Vice President and Henry N. Fletcher (another son of the elder Andrew Fletcher) as Secretary. The younger Andrew Fletcher was a renowned marine engineer in his own right, and he had already taken on a large portion of the responsibility in the area of engine design prior to his father's death. In 1906 his design for a steam turbine engine was executed, and the *Governor Cobb* was launched as the first American vessel with this type of power plant. The company also gained attention as the builder of J. Pierpont Morgan's noted *Corsair III*, which at the time was considered to be the finest private yacht in the world.

During the first quarter of the present century the W. & A. Fletcher Company continued as an important part of the American shipbuilding industry, although change in that industry eventually required a shift in emphasis from steam power plant and vessel construction to repair work, with a notable specialization in turbine and diesel engine rehabilitation. The company's shipyard was expanded in size during this period through the lease of a second parcel of land adjacent to the south of the original holding. This acquisition was followed by

⁶ *American Society of Mechanical Engineers* 1905.

a program of building construction that produced several new structures and a new pier on this second parcel (see Photograph of Tenney map and view of 1907). The machine shop was enlarged at the same time through the construction of an addition to the south end of the original structure in 1906. It was also during this period that the property to the south of the expanding shipyard was developed with the construction of the large American Warehouse & Trading Company storage building (now referred to as the South Warehouse [HAER No. NJ-95-C] and an associated pier circa 1908 (see attached G.M. Hopkins Company map of 1909). At some point during the next several years this building was acquired by the Nungesser-Dickinson Seed Company and put to use as a seed warehouse.

The shift to repair work began in 1913, although initially the yard continued to produce new engines, boilers, and other types of specialized marine machinery. The outbreak of the First World War brought an increased demand for the services of the company, and the yard was active in the conversion of merchant vessels for use as troop transports. This increased demand prompted additional structural expansion, and by 1919 the company was employing 2800 workers (see Photograph of Love map of 1919). It was in 1918, during this phase of expansion, that the original (eastern) section of the Carpenter Shop (HAER No. NJ-95-D) was built. This new structure was quickly found to be inadequate, however, and the western section was added circa 1920 (see attached G.M. Hopkins Company map of 1923 and Photograph of Cross map of 1925).

With the end of the war the W. & A. Fletcher Company experienced a significant reduction in business and began to encounter financial difficulties. With the death of Andrew Fletcher Jr. in 1925 the company experienced a loss in leadership from which it could not fully recover.⁷ It was at this point that the yard was fully dedicated to ship repair, and the last Fletcher engine was completed in 1925. The yard continued to operate in this reduced capacity until 1929.

The United Dry Docks Shipyard -- 1929 - 1938

On March 1, 1929 the W. & A. Fletcher Company merged with six other independent New York harbor shipyard concerns (the Morse Dry Dock & Repair Company; the Staten Island Shipbuilding Company; Theodore A. Crane's Sons Company; James Shewan & Sons Company; and the New York Harbor Dry Dock Company) to form a single corporation known

⁷ *New York Times*, November 30, 1925.

as United Dry Docks, Inc.⁸ The decision to merge was prompted by the continuing depression in the shipbuilding industry and by the related desire to eliminate competition. The new corporation concentrated its attentions on ship repair (although power plant and vessel construction could be offered) and controlled half of the ship repair capacity within the harbor of New York. United reduced operating costs by eliminating extraneous personnel and centralizing operational control, with on-site authority placed in the hands of a plant manager and an assistant. The corporation's Fletcher Plant, which was managed by Henry N. Fletcher (son of the first Andrew Fletcher), was used solely as a repair facility.

As might be expected in these difficult financial times, the former Fletcher yard changed little during the ownership tenure of United Dry Docks, Inc. (see attached G.M. Hopkins Company map of 1934; note that the former Nungesser-Dickinson Seed Company warehouse was now being operated by the Brookhattan Terminal Warehouse Corporation). In 1934 this struggling corporation went into receivership. It was reorganized as United Shipyards, Inc. in 1936, but successive labor disputes forced a reduction in operations that included the closing of the Fletcher plant in 1937. Cartographic representations of the abandoned facility (and the adjacent warehouse, then known as the 12th Street Stores of the Hoboken Dock Company) in 1938 again showed that the yard had changed little since 1929 (see attached Sanborn Map Company map of 1906 [Corrected to 1938] and Photograph of Hoboken Yard General Plan Prior to Lease by Bethlehem Steel Co. in 1938 map of 1945).

The Bethlehem Steel Company Shipyard -- 1938 - 1983

In June of 1938 United Shipyards, Inc. sold its assets to the Bethlehem Shipbuilding Corporation for the sum of \$9,320,000 (United Shipyards ceased to exist as a corporate entity in the following year).⁹ The Bethlehem Shipbuilding Corporation had been established as the shipbuilding subsidiary of the powerful Bethlehem Steel Corporation in 1917. Bethlehem had been involved in the shipbuilding industry since the turn of the century, and the formation of this subsidiary concern allowed for the consolidation of five separate shipyard interests. In November of 1938, shortly after the purchase of the Hoboken facility, the Bethlehem

⁸ The W. & A. Fletcher Collection at the South Street Seaport Museum (with data collected from the Hagley Museum and Library in Wilmington, Delaware) was the principal source of information on United Dry Docks, Inc. and United Shipyards, Inc.

⁹ The W. & A. Fletcher Collection at the South Street Seaport Museum (with data collected from the Hagley Museum and Library in Wilmington, Delaware) was again the principal source of information on the Bethlehem Steel Company's Shipbuilding Division -- see also Moller 1964; Foster 1990; and the Bethlehem Steel File at the Bethlehem Public Library, Bethlehem, Pennsylvania.

Shipbuilding Corporation was reorganized to become the Shipbuilding Division of the Bethlehem Steel Company. The acquisition of the United Shipyards holdings allowed for the establishment of a presence within the harbor of New York, and these several former United shipyards came to be known collectively as the Shipbuilding Division's New York Plant. It was initially proposed that the former Fletcher yard be abandoned, but this plan was reconsidered and the property was designated as the division's Hoboken Yard.

The reorganization of 1938 positioned Bethlehem to take advantage of federally subsidized programs designed to replace outmoded cargo vessels. With the coming of the Second World War the company was prepared to handle the huge demand for shipbuilding services that resulted from the government's effort to build the United States Navy into a global force. Bethlehem's Shipbuilding Division handled both new construction and conversions, building and refitting warships and cargo vessels of all sizes and types. The Hoboken Yard was utilized as a repair and conversion facility, and, together with the nearby Todd Shipyard Corporation yard, it contributed to establishing the City of Hoboken as one of the country's most important centers of these activities during the war. Bethlehem's Hoboken Yard is said to have handled more than 4,000 ships and employed as many as 11,000 individuals during the course of the war. The yard handled a wide range of repair and conversion tasks, perhaps most notably the installation of armament and protective steel plating.

The tremendous demand for shipbuilding services during the war necessitated a significant expansion of the facilities operated by the Bethlehem Steel Company's Shipbuilding Division. Several new shipyards were built, and existing yards, including Hoboken, were upgraded and expanded. In 1943 Bethlehem purchased the former United Shipyards property, the former Nungesser Seed Company property, and land to the north of the yard from the Hoboken Land and Improvement Company (see Photograph of Hoboken Yard Real Estate Plan map of 1945). The former seed warehouse was immediately adapted to provide space for offices, locker rooms, shops, and storage and came to be referred to as the South Warehouse (see Photograph of Sanborn Map Company map of 1944). It was also at this time that the machine shop was again enlarged through another addition at its southern end that brought this structure to its current configuration. Finally, the new Plate Shop (HAER No. NJ-95-E) was completed to provide a large, modern metalworking facility that greatly enhanced the yard's capacity.

The end of the war brought a considerably reduced demand that led to a depression in the shipbuilding industry that was furthered by foreign competition and the expansion of the commercial aviation industry. Bethlehem was forced to reorganize and downsize its operations, closing a number of facilities and moving into the production of passenger liners and, most notably, oil tankers. By 1963 the former Fletcher shipyard was Bethlehem's only remaining repair facility in New York harbor. During this period the Hoboken Yard continued as a center for a variety of repair and conversion operations, while also handling tank cleaning and hull surveys. The yard's area of specialization, as might be expected, was the servicing of oil

tankers, but it was also involved in the conversion of former military vessels for peacetime use. During the 1980s the Bethlehem Steel Company sought to greatly reduce its involvement in the shipbuilding industry as part of a larger, company-wide downsizing program. In 1983 the Hoboken Yard, which had changed little since the end of the Second World War (see Photograph of Hoboken Yard General Plan map of 1983), was sold to the Briswell Corporation. This concern continued to operate the property as the Hoboken Shipyard until 1984, at which point the facility was finally shut down. During the past decade this valuable riverfront property has been the focus of several development attempts.

Summary Description of the Bethlehem Steel Company Shipyard

The Bethlehem Steel Company Shipyard is located at 1201-1321 Hudson Street in the City of Hoboken, Hudson County, New Jersey. The property is bounded on the west by Hudson Street, on the north by the line of 14th Street extended, on the east by the Hudson River, and on the south by the line of 12th Street extended. This shipyard was developed by the W. & A. Fletcher Company, a national leader in the construction of steamboats and marine steam engines, in 1890. It was operated by the Shipbuilding Division of the powerful Bethlehem Steel Company between 1938 and 1983. Five primary structures located within this vacant former shipyard complex, which ceased to function in 1984, are documented in this report (see attached Plan of the Bethlehem Steel Company Shipyard Complex and attached Photographs).

The Machine Shop [HAER No. NJ-95-A] was built in three stages between 1890 and 1944 and is sited along the east side of Hudson Street in the western end of the yard. The Blacksmith Shop/Boiler Shop [HAER No. NJ-95-B] was built in 1890 and is sited to the rear of the Machine Shop, extending eastward toward the Hudson River. The South Warehouse [HAER No. NJ-95-C]) was built circa 1908 and adapted to serve as a component of the yard during the Second World War -- it is sited to the southeast of the Machine Shop. The Carpenter Shop [HAER No. NJ-95-D]) was built in two stages between 1918 and 1923 and is sited to the east of the Machine Shop and to the north of the South Warehouse. The Plate Shop (HAER No. NJ-95-E) was built in 1944 and is sited to the east of the Machine Shop between the Blacksmith Shop/Boiler Shop and the Carpenter Shop.

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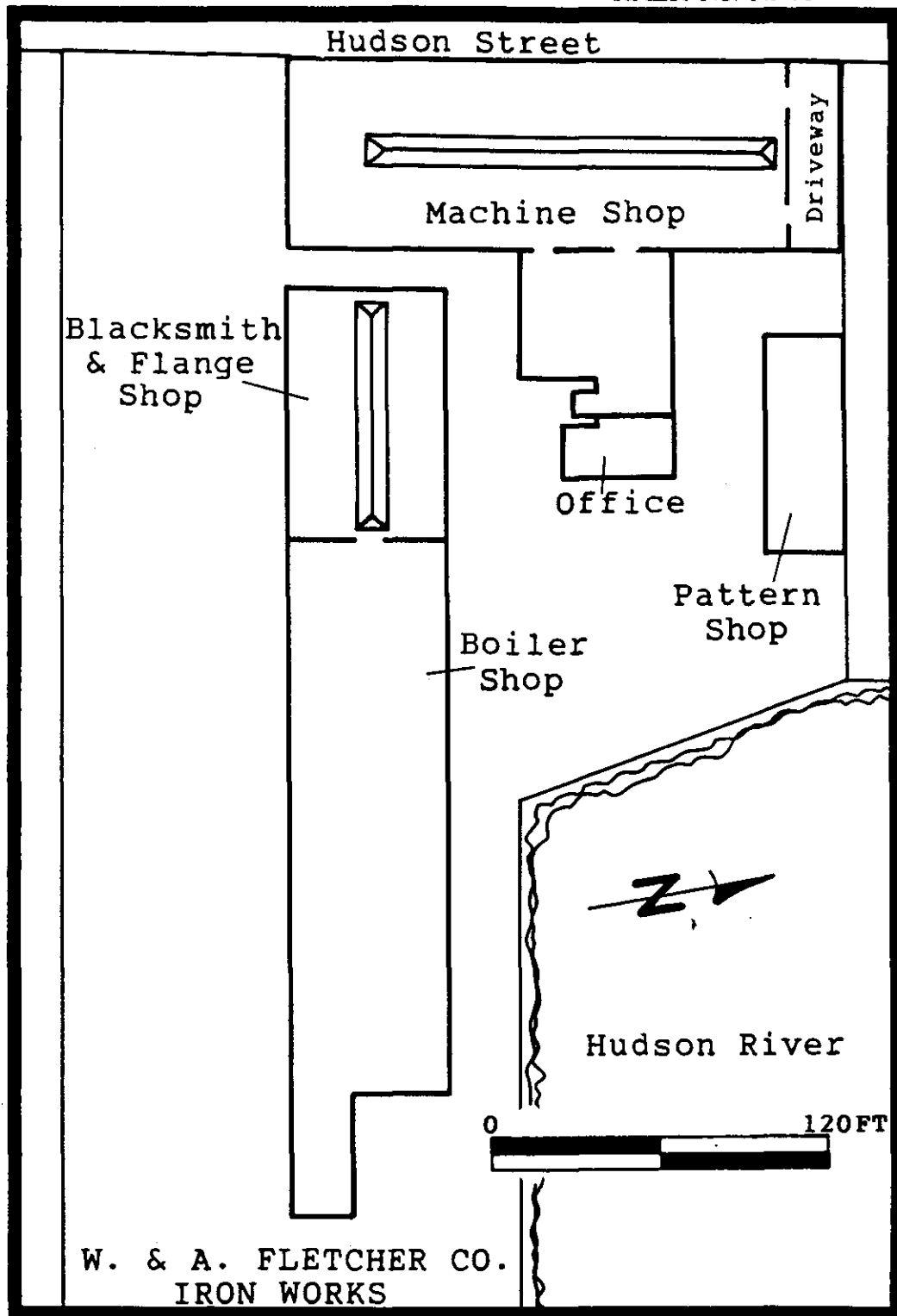
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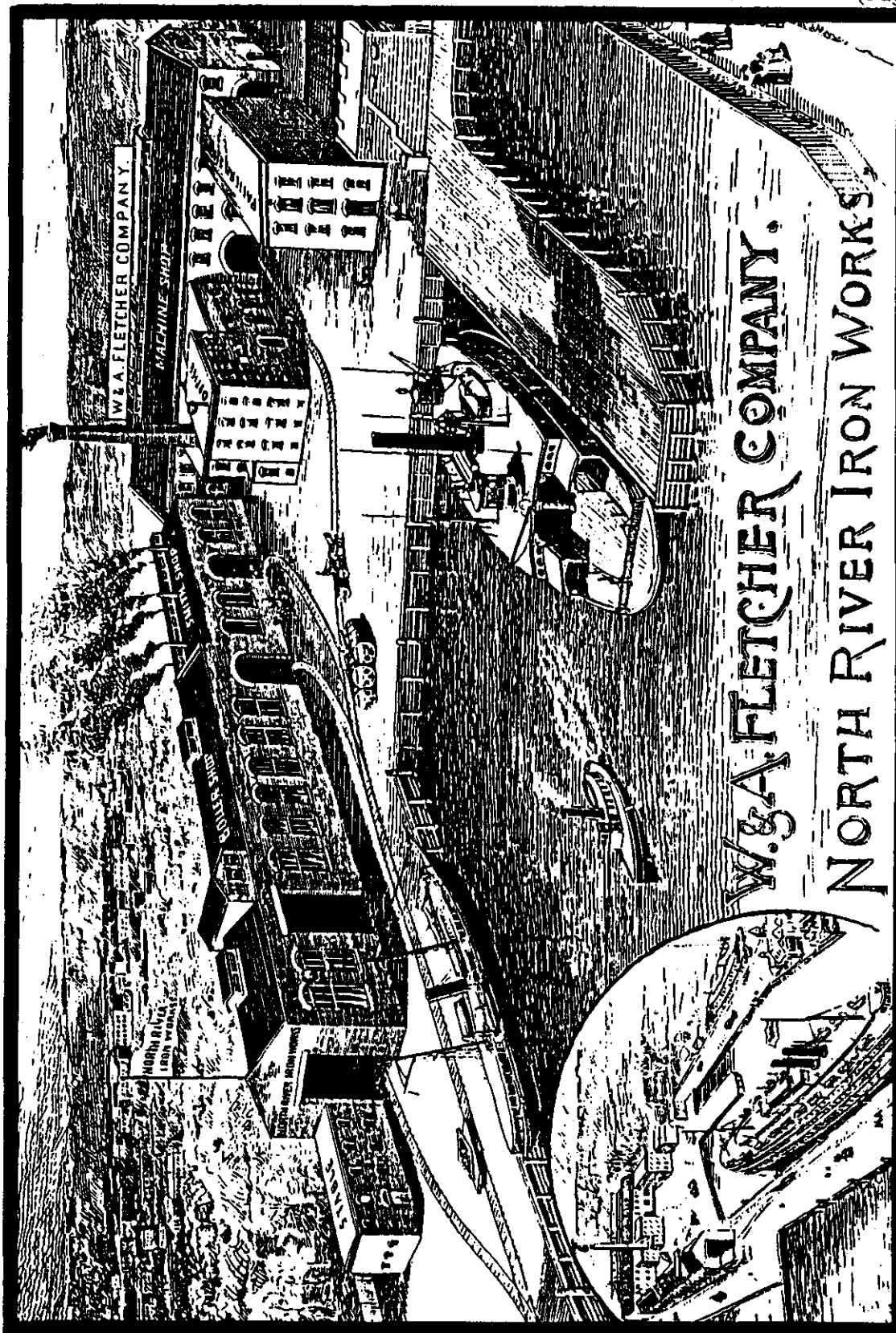
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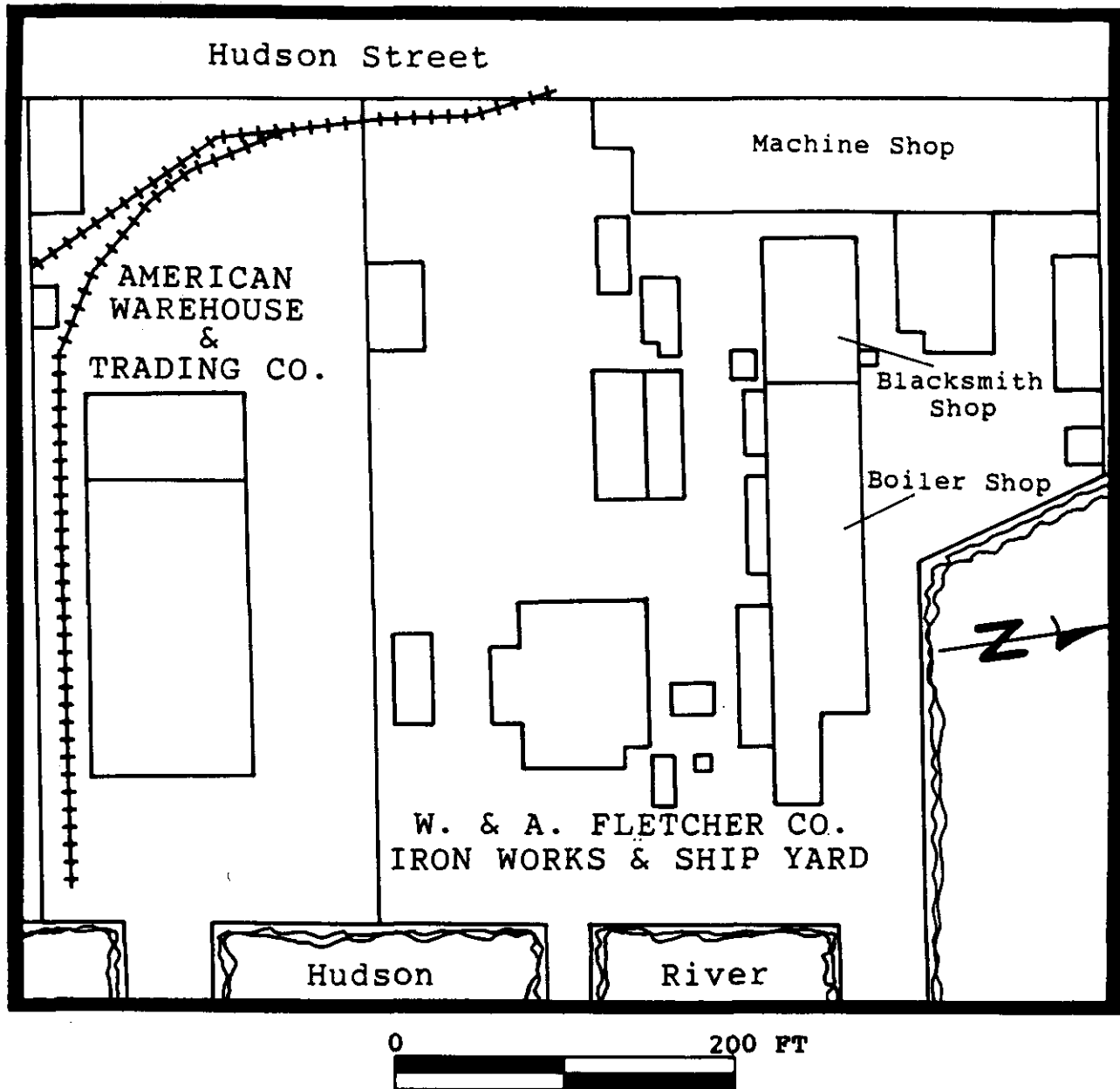


Map of the W. & A. Fletcher Company Iron Works in 1891.
Source: Sanborn-Perris Map Company 1891 (traced).

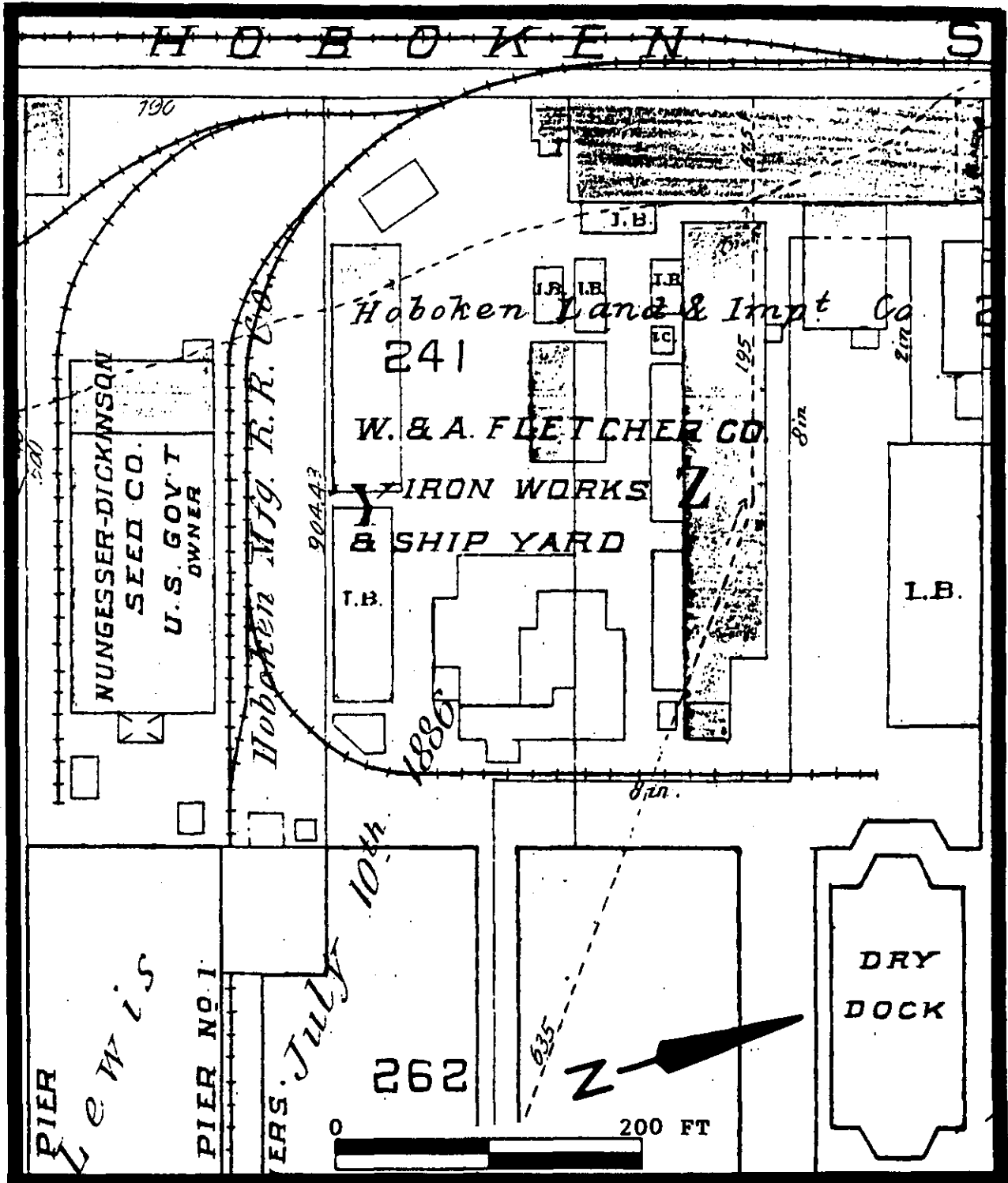


View of the W. & A. Fletcher Company North River Iron Works in 1893.

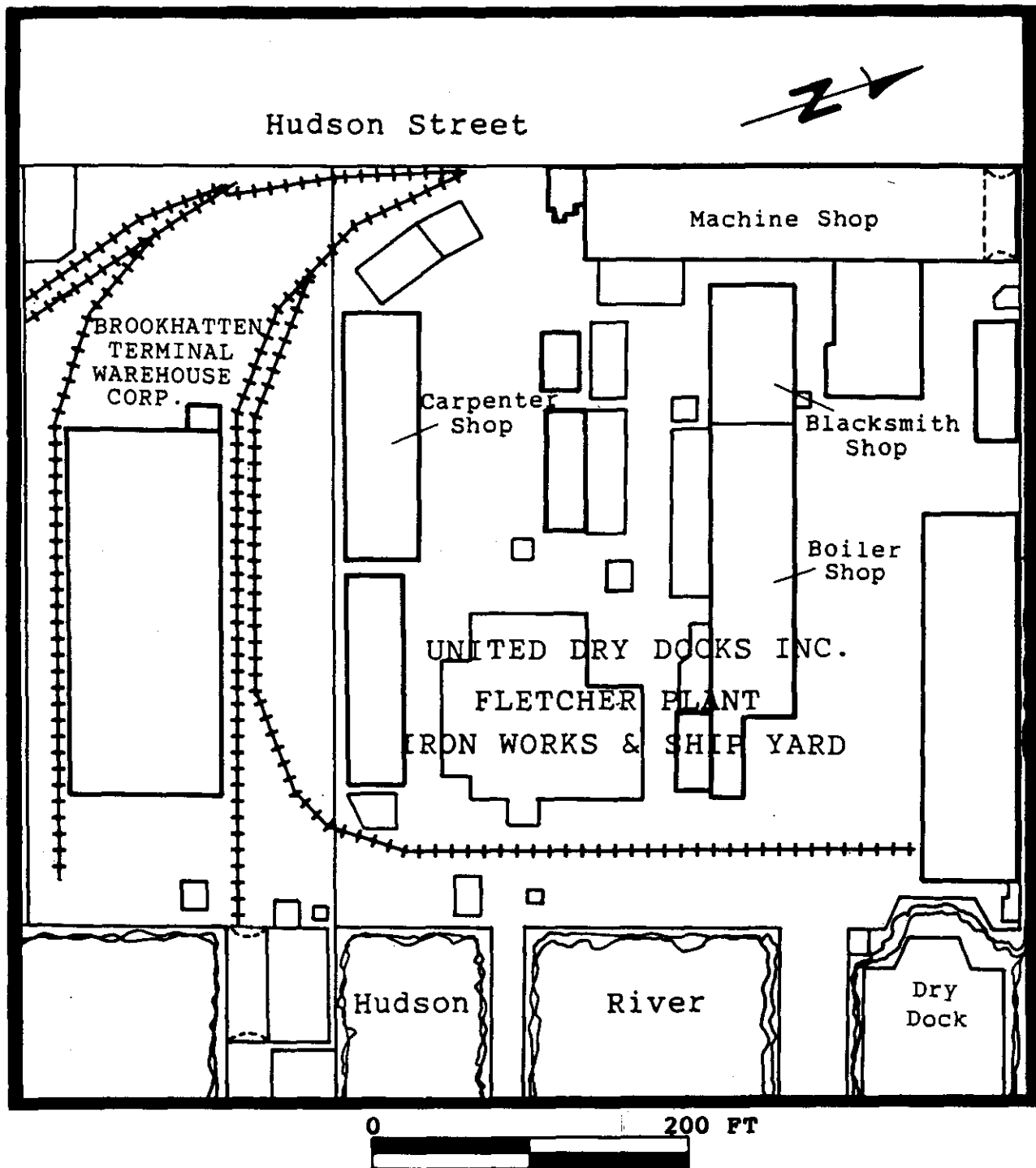
Source: W. & A. Fletcher Company North River Iron Works 1893.



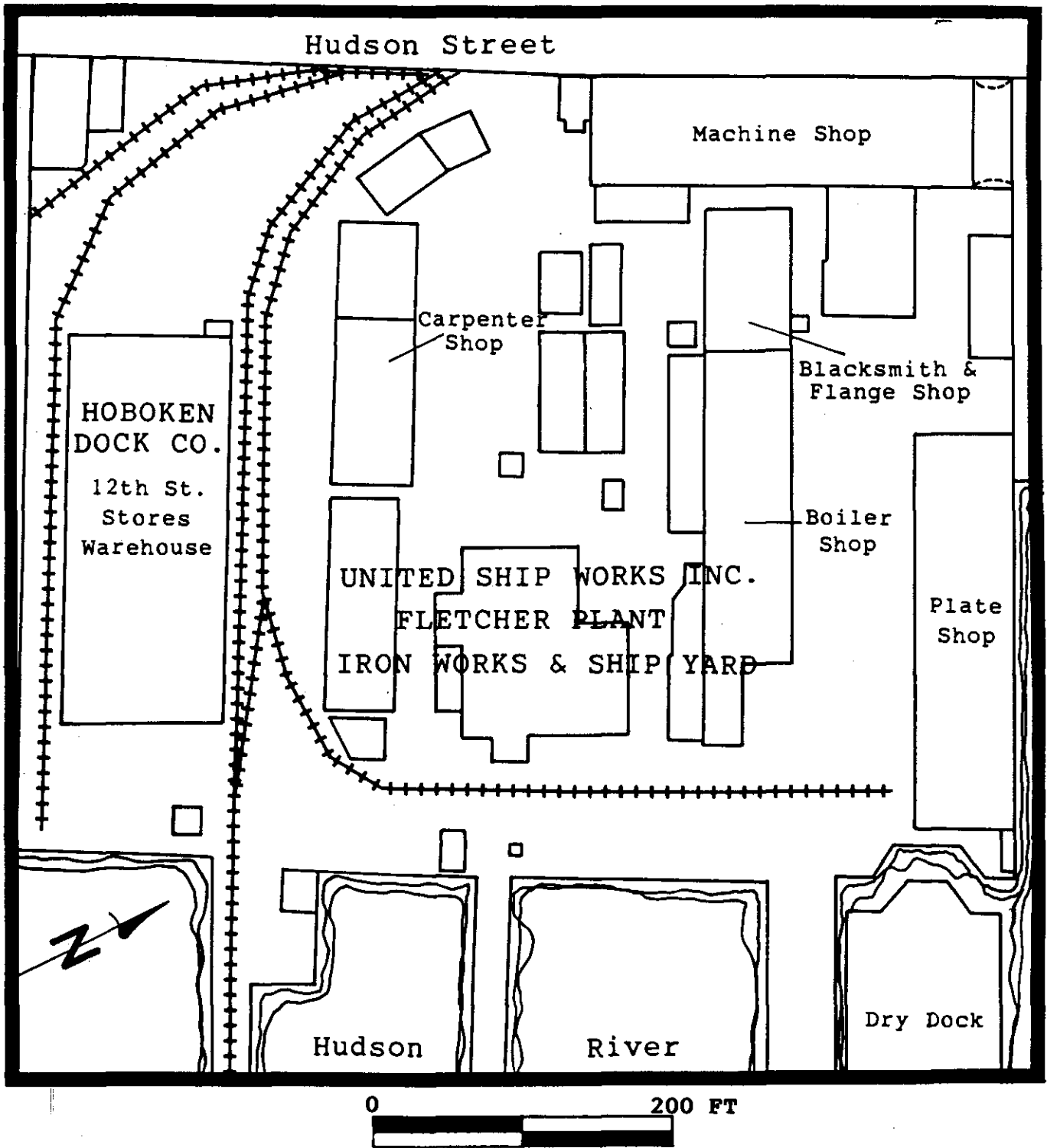
Map of the W. & A. Fletcher Company Iron Works & Ship Yard in 1909.
Source: G.M. Hopkins Company 1909 (traced).



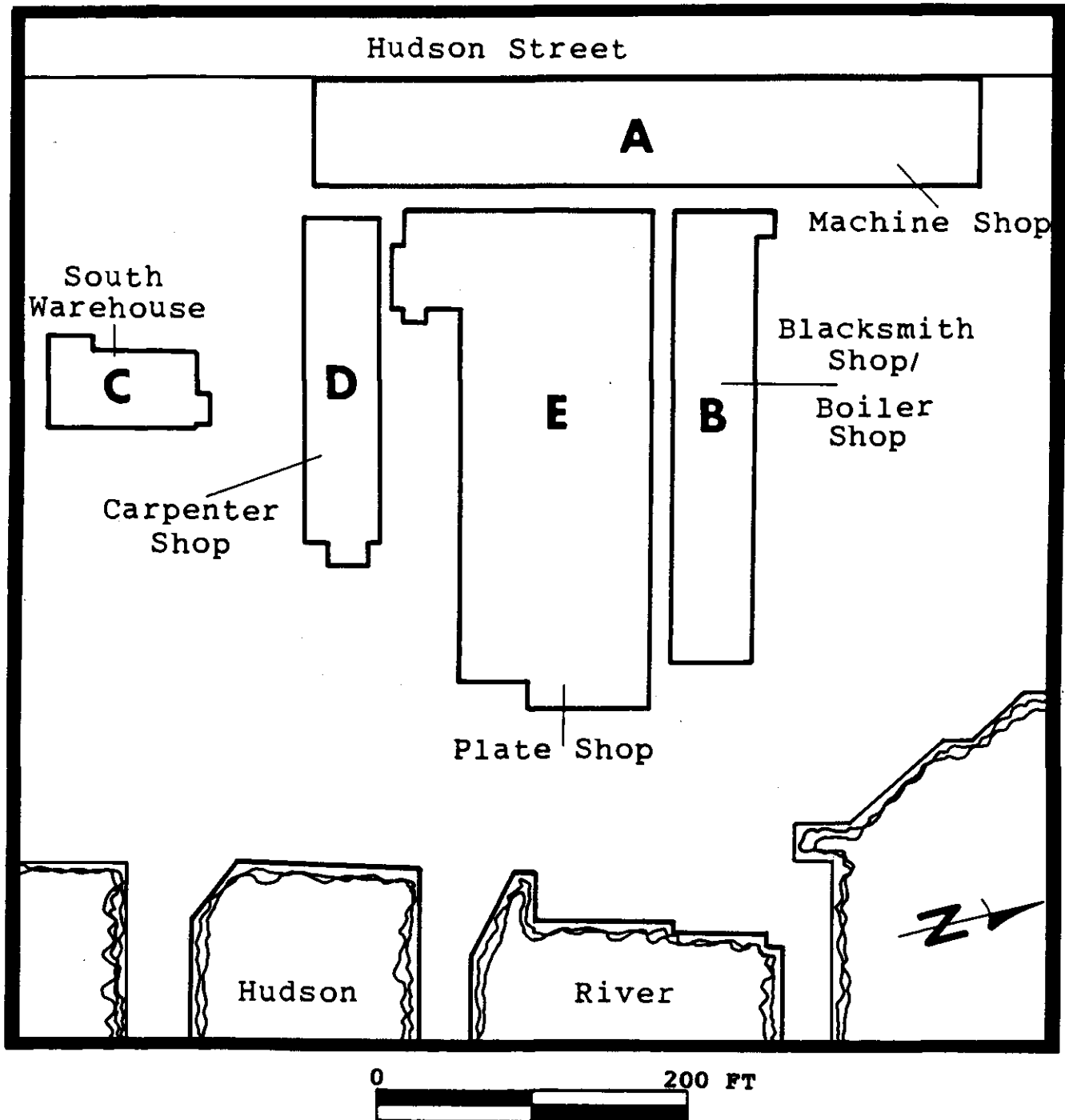
Map of the W. & A. Fletcher Company Iron Works & Ship Yard in 1923.
Source: G.M. Hopkins Company 1923.



Map of the United Dry Docks Inc. Fletcher Plant Iron Works & Ship Yard in 1934.
Source: G.M. Hopkins Company 1934 (traced).



Map of the United Ship Works Inc. Fletcher Plant Iron Works & Ship Yard in 1938.
Source: Sanborn Map Company 1906/1938 (traced).



Plan of the Bethlehem Steel Company Shipyard Complex.